

Massachusetts Community and State College Recycling: Worcester State College

FINAL REPORT

June 2003

Submitted to:

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Worcester State College (Table 9)

Worcester State College enjoys a fairly sophisticated and successful recycling program. Worcester State recycles all of its major fiber streams – mixed paper, newspapers and magazines, and cardboard – which are commingled and processed on campus in a compactor. Scrap metal is collected once or twice a year. Computers and electronic equipment, universal wastes, and batteries are all recycled effectively. We recommend only the purchase of additional recycling containers to be set out on campus to capture additional fiber from the waste stream.

Conspicuously absent from Worcester State's recycling programs are food and beverage containers. We recommend purchase or lease of a rolloff container to be dedicated to food and beverage containers, at a total program cost of about \$3,400 per year (with rolloff purchase) or \$5,200 per year (with a 4-year lease-to-own).

With recommended modifications, we estimate that Worcester State can achieve a recycling rate of about 30%, up from its current 12-15%. Most of this increase will be achieved by enhancing the capture of mixed fibers.

Worcester State College
Recycling Status, Issues, and Opportunities
Worcester State College

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Current Status

Worcester State College (WSC) enjoys a fairly sophisticated and successful recycling program. WSC recycles all of its major fiber streams – mixed paper, newspapers and magazines, and cardboard – which are mingled in a single fiber stream and processed on-campus in a compactor. Scrap metal is collected once or twice a year. Computers and electronic equipment, universal wastes, and batteries are all recycled effectively.

Conspicuously absent from WSC's recycling programs are food and beverage containers – an omission which puts WSC (or more specifically, its hauler) in violation of Massachusetts' disposal bans on these items. The College cites financial constraints as the major reason these materials are not recycled. Given that containers are a major component of the waste stream, that container collection is viewed by students and staff as a core element of campus recycling, and that these items, by law, need to be recycled, initiating a cost effective container recycling program is clearly WSC's top recycling priority.

WSC cites low generation rates for wood and metals as reasons these materials are not more aggressively recycled. Surplus property disposal is an issue, because WSC (like many other schools), finds the state's surplus system burdensome to navigate. Although not a major portion of the annual waste stream, surplus has built up to the point that it consumes large quantities of storage space.

Issues / Opportunities

The highest priorities for improvement are containers, mixed paper, and cardboard.

- **Containers:** Most cost effective will be commingled collection into plastic bags that are used to line recycling containers (with can-only tops) that are placed in high traffic locations (cafeterias, student common areas, dormitories). The number of containers should be calculated so that they can be emptied by maintenance staff twice per week. Staff should pull the bags from the containers, tie them off, then transport and deposit the bags into a covered 30-cy rolloff container (fitted with a "dome top" cover with sliding access doors). When full, the container would be transported to the Springfield Material Recovery Facility (MRF), the closest site capable of handling mixed containers.
- **Paper:** To glean additional fiber from the campus, additional recycling containers should be placed in classroom and other student-frequented areas. In the past, WSC has attempted paper recycling from student apartments, but was put off by high contamination levels. We recommend that paper recycling in these locations be re-implemented on a pilot basis, with education and slot-top containers used to discourage contamination.

- **Cardboard:** Cardboard collection should be re-evaluated to assure that OCC is collected and recycled from additional points of generation, such as athletic facilities, housing areas, and stockrooms.

Impacts on Waste Disposal

In 2002 WSC recycled approximately 41 tons of mixed paper and cardboard (its principal recyclables), against 300-350 tons of trash, for a recycling rate of 10-12%. Given that fibers alone typically account for some 40% of the waste stream in an educational setting, we believe that WSC's recycling rate can be doubled with more aggressive and comprehensive paper collection. Container collection can add approximately another 5% to this total.

Enhancements to fiber collection should be inexpensive, entailing the purchase of additional recycling containers, but little other direct expense. Implementation of container recycling will involve additional expense for container purchase, purchase or lease of a covered rolloff, transportation, and processing at the Springfield MRF.

<p style="text-align: center;">Worcester State College Massachusetts Community/State College Recycling: Current Practices and Potential Modifications</p>			
Institution: Worcester State College		Date:	
Contact: Rich Korzec		Phone: 508-929-8152	
		Email:	
Material	Current Practice	Recommended Modifications	Comments/Notes
Mixed Office Paper (unshredded)	Collect in 95 gallon wheeled carts and empty into 35 yard self contained compactor (with OCC).	Expand program to include classrooms on campus housing. More volumes could be gained through promotion and education	Rich is in need of support from administration. Education program and student involvement needs to be improved.
Confidential Documents	Self shredding, into carts, then into compactor	Need to review in more detail	
Newspaper/Magazine Mix	Included in office paper mix	Need to focus on non-administration fibers—volume will spike. Will need additional smaller containers.	More paper available. Used to collect from classrooms and residential life but stopped because contamination was too great.
Cardboard	Collect from kitchen (where compactor is now), library, and student center (loose into service vehicle).	More detailed assessment needed to find out where other OCC is ending up.	Seems like the program is working.
Beverage Containers	None	Start program right away. Suggest co-mingle. Carts in traffic areas (lined with bags), maintenance collects twice per week, then into covered roll off for periodic pull.	No program because limited resources.
Tin Cans	None--See above		
Scrap Metal	Yes & No	Set up ongoing light iron service, either event day driven, or through out peak generation periods (holidays in Dec. and Jan) and summer.	Metal recycling in 2002 with IRN because of furniture clean outs. New agreement with WMX has appliance recycling element.
Wood Waste	None		
Computers/Electronic Equipment	Yes	None	IRN every quarter. Very good program (best state school)
Fluorescent Lamps & Ballasts	Yes	None	Same as above
Batteries	Yes	None	Same as above
Surplus Property	Some	Need to get back to this issue as a priority	2002 efforts good
Construction/Demolition	None	Need to set up policy for internal and external efforts	Desire is there, need tools and support from administration

Worcester State College
Cost of Recommended Recycling Program Enhancements

Beverage Containers

Recommendation: Commingled collection into plastic bags in recycling containers. Bagged containers placed in 30 CY covered rolloff. Rolloff to E.L. Harvey & Sons.

Estimated Cost of Beverage Container Recycling Program, WSC		
Item	Units	Value
Estimated Container Generation	Tons/Yr	24
Rolloff Container		
Purchase	\$\$	\$6,000
Lease-to-Own, 3 Yr	\$\$/Yr	\$2,318
Lease-to-Own, 4 Yr	\$\$/Yr	\$1,826
Haul to E.L. Harvey	\$\$/Haul	\$140
Tons per Haul to E.L. Harvey	Tons/Haul	2.0
Per Ton Processing Charge	\$\$/Ton	\$70
Annual Cost with Rolloff Purchase	\$/Year	\$3,360
Annual Cost with 3 Year Lease-to-Own	\$/Year	\$5,678
Annual Cost with 4 Year Lease-to-Own	\$/Year	\$5,186

Mixed Paper

Recommendation: Purchase additional recycling containers

Cost to Purchase Additional Paper Recycling Containers, WSC			
Item	Number	Unit Cost	Total Cost
95 Gallon Schaefer containers (or equivalent) w/ slot top for paper	32	\$100	\$3,200
Rubbermaid "Slim Jim" recycling containers (or equivalent) w/ slot top	24	\$50	\$1,200
Total Cost for Additional Containers			\$4,400